1. Amendment filed on 5/15/09 will not enter.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in a telephone interview with Mr. Paul Schramm, Reg. #62,050 representing Mr. Steven Nichols, Reg. # 40,326 on 8/7/09.

4. Amending the specification as follow:

a. Replacing the Title of invention with:

"SEPARATE ENCAPSULATION OF COMMUNICATION OPERATIONS IN COMPUTER ALGORITHMS"

5. Amending the claims as follow:

1. (Currently Amended) A method of executing a computer algorithm <u>in an execution environment</u>, comprising:

executing ~~a first~~ an algorithm module encapsulating said computer algorithm except at least one execution environment dependent communication operation of said algorithm in said execution environment;

executing a ~~second~~ communication module encapsulating said at least one execution environment dependent communication operation of said algorithm in said execution environment, such that said at least one execution environment dependent communication operation is available to said ~~first~~ algorithm module;

providing a different communication module encapsulating another execution environment dependent communication operation of said algorithm suitable for a second execution environment while maintaining said algorithm module when said algorithm is being executed in said second execution environment; and

instantiating at least one data object for encapsulating data communicated between said ~~first~~ algorithm module and a communicating partner via said communication module or said different communication module during execution of said algorithm, wherein said at least one execution environment dependent communication operation or said another execution environment dependent communication operation is executed on at least one of the instantiated data object, each one of said at least one data object being an instance of a data class~~, said data communicated between said first module and said communicating partner being accessible by said first module~~.

2. (Cancelled)

3. (Currently Amended) The method of claim [[2]]1, wherein said at least one execution environment[[-]]dependent communication operation comprises all execution environment[[-]]dependent communication operations of said algorithm.

4.-5. (Cancelled)

6. (Currently Amended) The method of claim 1, wherein data communicated from said [[first]] algorithm module is encapsulated in a first data object being an instance of a first data class, and data communicated to said [[first]] algorithm module is encapsulated in a second data object being an instance of a second data class.

7. (Currently Amended) The method of claim 6, wherein said ~~second~~ communication module comprises a communication object, said communication object being an instance of a communication class.

8. (Currently Amended) The method of claim 7, wherein said [[first]] algorithm module comprises a command object, said command object being an instance of a command class.

9. (Original) The method of claim 8, wherein each one of said classes implements one of a plurality of protocols of a framework, such that instances of said classes are compatible with each other.

10. (Original) The method of claim 9, wherein said framework is a Java framework and each one of said plurality of protocols is respectively encapsulated in an interface.

11. (Currently Amended) The method of claim 10, wherein said command class implements a command interface, said command interface defining at least one method of executing, said method of executing defined by said command interface comprises taking an indicator of said communication object as a parameter, thereby an operation of said communication object is available to said command object.

12. (Original) The method of claim 11, wherein said communication class implements a communication interface, said communication interface defining at least one method of communication.

13. (Original) The method of claim 12, wherein said at least one method of communication comprises a method of communicating data from said first data object to said communication partner.

14. (Original) The method of claim 13, wherein said at least one method of

communication comprises a method of communicating data from said communicating partner to said second data object.

15. (Currently Amended) A computer readable medium storing thereon computer executable instruction codes, said codes when executed by a processor of a computer causes said processor to:

execute ~~a first~~ an algorithm module encapsulating a computer algorithm except at least one execution environment dependent communication operation of said algorithm in said execution environment; [[and]]

execute a ~~second~~ communication module encapsulating said at least one execution environment dependent communication operation of said algorithm in said execution environment, such that said at least one execution environment dependent communication operation is available to said ~~first~~ algorithm module;

provide a different communication module encapsulating another execution environment dependent communication operation of said algorithm suitable for a second execution environment while maintaining said algorithm module when said algorithm is being executed in said second execution environment; and

instantiate at least one data object for encapsulating data communicated between said algorithm module and a communicating partner via said communication module or said different communication module during execution of said algorithm, wherein said at least one execution environment dependent communication operation or said another execution environment dependent communication operation is executed on at least one of

the instantiated data object, each one of said at least one data object being an instance of a data class~~, wherein said second module encapsulates at least one environment-dependent communication operation of said algorithm and is configured to communicate with a communicating partner~~.

16-25. (Cancelled)

26. (Currently amended) The computer ~~system~~ readable medium of claim 15, wherein said computer executable instruction codes include codes for implementing said algorithm module, said communication modules and each one of said [[first]] algorithm and [[second]] communication module codes implements a common protocol so that said [[first]] algorithm and [[second]] communication module codes are compatible.

Reasons for Allowance

6. The following is an examiner's statement of reasons for allowance:

7. The prior art of record does not expressly teach or render obvious, in the context of the claims taken as a whole, the invention as recited in independent claims 1 and 15.

8. The concept of modular programming including separately encapsulating communicating and non-communicating portion of an algorithm was disclosed in "Problem Solving, Abstraction,

and Design Using C++" to Friedman et al. The reference does not expressly teach or render obvious the execution environment dependent communication operation encapsulated in a communication module, providing of a different communication module encapsulating another execution environment dependent communication operation of the algorithm suitable for a second execution environment while maintaining said algorithm module when said algorithm is being executed in said second execution environment and instantiating at least one data object for encapsulating data communicated between said algorithm module and a communicating partner via the communication module or the different communication module during execution of said algorithm, wherein said at least one execution environment dependent communication operation or said another execution environment dependent communication operation is executed on at least one of the instantiated data object, each one of said at least one data object being an instance of a data class taken as a whole as recited in independent claims 1 and 15.

9. Neither a reference uncovered that would have provided a basis of evidence for asserting a motivation, nor one of ordinary skilled in the art at the time the invention was made, knowing the teaching of the prior arts of record would have combined them to arrived at the present invention as recited in the context of independent claims 1 and 15 as a whole.

10. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qing-Yuan Wu whose telephone number is (571)272-3776. The examiner can normally be reached on 8:30am-6:00pm Monday-Thursday and alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung (Sam) Sough can be reached on (571) 272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hyung S. Sough/
Supervisory Patent Examiner, Art Unit 2194
08/17/09

/QING-YUAN WU/
Examiner, Art Unit 2194